

REMARKS

Entry of the above amendments is respectfully requested. Initially, Applicant wishes to thank the Examiner for the indication of allowable subject matter. Applicant has re-written claim 32 in independent form and has presented it as new claim 74 in response thereto. Claim 74 is now believed to be in condition for formal allowance, and the same is respectfully requested.

In addition, the Examiner rejected claims 25-27 and 29 under 35 U.S.C § 102 as being anticipated by U.S. Pat. No. 5,461,907 to *Tench et al.* In particular, the Examiner contends that *Tench et al.* disclose scanning/imaging a sample as well as manipulating/cutting a sample with a conventional or knife-edge tip. More particularly, the Examiner contends that *Tench et al.* teach first and second manipulations of the sample, as well as measuring an indentation/subregion. Independent of whether these contentions by the Examiner are true, *Tench et al.* do not teach rescanning a subregion of the sample.

The present invention is directed to scanning the sample, manipulating the sample, and then rescanning a selected subregion of the sample. A key feature of the present invention is that rather than imaging the entire sample after performing a manipulation step of a nanostructure, a subregion is selected by the user and then rescanned, thus avoiding having to rescan the entire sample. More particularly, once the scanning and manipulating steps are complete, the user selects a subregion of interest to rescan. In most applications, including the applications contemplated by the preferred embodiment, high throughput is desired such that rescanning a subregion, rather than the whole sample, greatly improves image acquisition time and allows the user to focus only on the manipulated portion of the sample.

To clarify this feature of the invention, Applicant has amended claim 25 to define a “selecting” step and to define the “rescanning” step as “rescanning the selected subregion” of the sample. No new matter has been added. (*See*, for example, pp. 14 and 22-25) Therefore, a key benefit of the present invention, which is to image a modified sample without having to re-image

the entire sample, is more clearly defined. The cited references do not teach any way to select a subregion of interest, and then scan that subregion.

In contrast, *Tench et al.* teach performing what is known as a “nano-indentation” of the sample at a location and then imaging the entire sample to determine the hardness of the material by known techniques, as set forth in column 7, lines 55-64, and as noted in paragraph 5 of the Office Action. This is a time consuming process as the instrument acquires an image of the entire sample. *Tench et al.* clearly do not teach any way to scan a selected subregion. Similarly, *Guthold et al.* disclose scanning a region of the surface of the sample with a probe, which can perform manipulation. Applicant agrees that Figures 4A and 4B of *Guthold et al.* depict images of a fibrin sample before and after manipulation, but again, *Guthold et al.* do not provide any teaching regarding selectively rescanning a subregion of a sample. Finally, *Fuchs et al.*, which is likewise used to reject claims 25 and 27-29 under 35 U.S.C. § 102, do not teach rescanning a subregion of the sample. Although, as the Examiner points out at column 3, lines 42-46 and 50-55, *Fuchs et al.* teach carrying out surface modifications of a sample, and then imaging at atomic resolution using the same tip immediately after the intervention, *Fuchs et al.* do not teach selectively rescanning a subregion of a sample. Even the data shown in Figure 2, depicting what the Examiner contends is the “rescanning” step, is a rescan of the entire sample and not a selected subregion of it, and thus the *Fuchs et al.* reference suffers from the same above-noted drawbacks of the systems of *Tench et al.* and *Guthold et al.*

As a result, none of the cited references teaches all of the limitations of amended claim 25. It is notable that, contrary to the Examiner’s contention, claim 25 does not merely define imaging before and after a manipulation of the sample, but rather the present invention is limited to imaging a selected subregion of a sample after such a manipulation has occurred, as discussed previously. Therefore, the present invention as defined in claim 25 is novel and non-obvious over the references of record, and thus is believed to be in condition for allowance.

CONCLUSION

As the cited references do not teach selecting a subregion of the sample, and rescanning that subregion, and thus do not achieve the benefits of the preferred embodiment discussed above, including efficiently rescanning the region of interest to minimize image acquisition time and increase throughput, independent claim 25, and claims 26-32 dependent therefrom, are in compliance with 35 U.S.C. §§ 102, 103 and 112. As such, an indication as to the allowability of these claims is believed to be in order and the same is respectfully requested.

Should the Examiner have any questions or comments that could expedite the completion of prosecution of this case, he is invited to contact the undersigned at the number below. Applicant respectfully requests an extension of time of two months. A check in the amount of \$420.00 is included.

The Director is authorized to direct any additional fees associated with this or any other communication, or credit any overpayment, to Deposit Account 50-1170.

Respectfully submitted,


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